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PATENT  
Attorney Docket No. 216406

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:

Johal et al.

Application No. 10/089,496

Filed: March 28, 2002

For: ROOT RETARDANT

Art Unit: Unassigned

Examiner: Unassigned

**PRELIMINARY AMENDMENT**

Commissioner for Patents  
Washington, D.C. 20231

Dear Sir:

Prior to the examination of the above-identified patent application, please enter the following amendments and consider the following remarks.

**AMENDMENTS**

**IN THE CLAIMS**

14. (New) A method of inhibiting the preemergent growth of a plant in a medium that can support the growth thereof, comprising:

introducing into said medium a preemergent growth inhibiting amount of a growth inhibitor, said growth inhibitor comprising a lactic-acid-containing steep liquor to which additional lactic acid has been added, said steep liquor having preemergent growth inhibiting activity and said additional lactic acid having been added in an amount effective to enhance the preemergent growth inhibiting activity of said steep liquor.

15. (New) A method according to claim 14, said steep liquor being corn steep liquor.

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16. (New) A method for preparing a preemergent herbicide for inhibiting the preemergent growth of a plant in a medium that can support the growth thereof, comprising:  
providing a lactic-acid-containing steep liquor, said steep liquor having preemergent growth inhibiting activity, and

adding additional lactic acid to said steep liquor, said additional lactic acid being added in an amount effective to enhance the preemergent growth inhibiting activity of said steep liquor.

17. (New) A method according to claim 16, said steep liquor being corn steep liquor.

18. (New) A method according to claim 16, said lactic acid being added in the form of a fermentation product of a lactic-acid-producing bacterium.

19. (New) A method of inhibiting the preemergent growth of a plant in a medium that can support the growth thereof, comprising:

introducing into said medium a preemergent growth inhibiting amount of a growth inhibitor, said growth inhibitor comprising the deMan-Rosola-Sharpe medium to which lactic acid has been added in an amount effective to enhance the preemergent growth inhibiting activity of said medium.

20. (New) A method for preparing a preemergent herbicide for inhibiting the preemergent growth of a plant in a medium that can support the growth thereof, comprising:

adding lactic acid to the deMan-Rosola-Sharpe medium in an amount effective to enhance the preemergent growth inhibiting activity of said medium.

21. (New) A method of inhibiting the preemergent growth of a plant in a medium that can support the growth thereof, comprising:

introducing into said medium a preemergent growth inhibiting amount of a growth inhibitor, said growth inhibitor comprising the lactic acid bacterial fermentation product of the deMan-Rosola-Sharpe medium.

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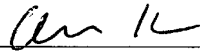
22. (New) A method of inhibiting the preemergent growth of a plant in a medium that can support the growth thereof, comprising:

introducing into said medium a preemergent growth inhibiting amount of a growth inhibitor, said growth inhibitor comprising lactic acid and a protein hydrolyzate, said lactic acid and protein hydrolyzate together being present in an amount effective to inhibit the preemergent growth of said plant.

23. (New) A method according to claim 22, said growth inhibitor being steep liquor.

24. (New) A method according to claim 23, said steep liquor being corn steep liquor.

Respectfully submitted,



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**AMENDMENTS TO CLAIMS MADE VIA PRELIMINARY AMENDMENT**

IN THE CLAIMS

14. (New) A method of inhibiting the preemergent growth of a plant in a medium that can support the growth thereof, comprising:

introducing into said medium a preemergent growth inhibiting amount of a growth inhibitor, said growth inhibitor comprising a lactic-acid-containing steep liquor to which additional lactic acid has been added, said steep liquor having preemergent growth inhibiting activity and said additional lactic acid having been added in an amount effective to enhance the preemergent growth inhibiting activity of said steep liquor.

15. (New) A method according to claim 14, said steep liquor being corn steep liquor.

16. (New) A method for preparing a preemergent herbicide for inhibiting the preemergent growth of a plant in a medium that can support the growth thereof, comprising:

providing a lactic-acid-containing steep liquor, said steep liquor having preemergent growth inhibiting activity, and

adding additional lactic acid to said steep liquor, said additional lactic acid being added in an amount effective to enhance the preemergent growth inhibiting activity of said steep liquor.

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17. (New) A method according to claim 16, said steep liquor being corn steep liquor.

18. (New) A method according to claim 16, said lactic acid being added in the form of a fermentation product of a lactic-acid-producing bacterium.

19. (New) A method of inhibiting the preemergent growth of a plant in a medium that can support the growth thereof, comprising:

introducing into said medium a preemergent growth inhibiting amount of a growth inhibitor, said growth inhibitor comprising the deMan-Rosola-Sharpe medium to which lactic acid has been added in an amount effective to enhance the preemergent growth inhibiting activity of said medium.

20. (New) A method for preparing a preemergent herbicide for inhibiting the preemergent growth of a plant in a medium that can support the growth thereof, comprising:

adding lactic acid to the deMan-Rosola-Sharpe medium in an amount effective to enhance the preemergent growth inhibiting activity of said medium.

21. (New) A method of inhibiting the preemergent growth of a plant in a medium that can support the growth thereof, comprising:

introducing into said medium a preemergent growth inhibiting amount of a growth inhibitor, said growth inhibitor comprising the lactic acid bacterial fermentation product of the deMan-Rosola-Sharpe medium.

22. (New) A method of inhibiting the preemergent growth of a plant in a medium that can support the growth thereof, comprising:

introducing into said medium a preemergent growth inhibiting amount of a growth inhibitor, said growth inhibitor comprising lactic acid and a protein hydrolyzate, said lactic acid and protein hydrolyzate together being present in an amount effective to inhibit the preemergent growth of said plant.

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23. (New) A method according to claim 22, said growth inhibitor being steep liquor.

24. (New) A method according to claim 23, said steep liquor being corn steep liquor.

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**PENDING CLAIMS AFTER ENTRY OF PRELIMINARY AMENDMENT**

1. A malting composition comprising a maltable grain and a root retardant, said root retardant comprising corn steep liquor, wherein said growth inhibitor is present in said composition an amount effective to retard root formation of said maltable grain.

2. The composition of claim 1, wherein said maltable grain is selected from the group consisting of wheat, barley, and rye.

3. The composition of claim 1, comprising water in an amount effective to promote the malting of said maltable grain.

4. The composition of claim 1, wherein said root retardant is selected from the group consisting of dried corn steep liquor, and concentrated corn steep liquor.

5. A method of malting a maltable grain, comprising malting said maltable grain in the presence of a root retardant, said root retardant comprising corn steep liquor, and being present in an amount effective to retard root formation of said maltable grain.

6. A method according to claim 5, said maltable grain being selected from the group consisting of wheat, barley, and rye.

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7. A malted composition produced in accordance with the method of claim 6.
8. A method for making a fermented beverage, comprising:  
providing a malted malting composition, said malted malting composition having been made by malting a malting composition, said malting composition comprising a fermentable grain and a root retardant, said growth inhibitor comprising corn steep liquor, wherein said root retardant is present in an amount effective to retard root formation of said fermentable grain; and  
fermenting said malted malting composition.
9. A method according to claim 8, wherein said fermentable grain is selected from the group consisting of wheat, barley, and rye.
10. A fermented beverage produced in accordance with claim 8.
11. A malting composition comprising a maltable grain and a root retardant, said root retardant comprising a mixture of MRS medium and lactic acid, wherein said root retardant is present in said composition in an amount effective to retard root formation of said maltable grain.
12. A method of malting a maltable grain comprising:  
providing a maltable grain;  
selecting as a growth inhibitor, a growth inhibitor comprising corn steep liquor;  
adding to said maltable grain an amount of said selected growth inhibitor effective to inhibit rootlet formation from of said fermentable grain to thereby form a malting composition; and  
malting said malting composition.
13. A method for making a fermented beverage, said malted malting composition having been made by comprising malting a malting composition, said malting composition having been prepared by:



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providing a fermentable grain;  
selecting as a growth inhibitor, a growth inhibitor comprising corn steep liquor;  
adding to said fermentable grain an amount of said selected growth inhibitor effective to inhibit rootlet formation from said fermentable grain to thereby form a malting composition; and  
fermenting said malted malting composition.

14. A method of inhibiting the preemergent growth of a plant in a medium that can support the growth thereof, comprising:

introducing into said medium a preemergent growth inhibiting amount of a growth inhibitor, said growth inhibitor comprising a lactic-acid-containing steep liquor to which additional lactic acid has been added, said steep liquor having preemergent growth inhibiting activity and said additional lactic acid having been added in an amount effective to enhance the preemergent growth inhibiting activity of said steep liquor.

15. A method according to claim 14, said steep liquor being corn steep liquor.

16. A method for preparing a preemergent herbicide for inhibiting the preemergent growth of a plant in a medium that can support the growth thereof, comprising:

providing a lactic-acid-containing steep liquor, said steep liquor having preemergent growth inhibiting activity, and  
adding additional lactic acid to said steep liquor, said additional lactic acid being added in an amount effective to enhance the preemergent growth inhibiting activity of said steep liquor.

17. A method according to claim 16, said steep liquor being corn steep liquor.

18. A method according to claim 16, said lactic acid being added in the form of a fermentation product of a lactic-acid-producing bacterium.

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19. A method of inhibiting the preemergent growth of a plant in a medium that can support the growth thereof, comprising:

introducing into said medium a preemergent growth inhibiting amount of a growth inhibitor, said growth inhibitor comprising the deMan-Rosola-Sharpe medium to which lactic acid has been added in an amount effective to enhance the preemergent growth inhibiting activity of said medium.

20. A method for preparing a preemergent herbicide for inhibiting the preemergent growth of a plant in a medium that can support the growth thereof, comprising:

adding lactic acid to the deMan-Rosola-Sharpe medium in an amount effective to enhance the preemergent growth inhibiting activity of said medium.

21. A method of inhibiting the preemergent growth of a plant in a medium that can support the growth thereof, comprising:

introducing into said medium a preemergent growth inhibiting amount of a growth inhibitor, said growth inhibitor comprising the lactic acid bacterial fermentation product of the deMan-Rosola-Sharpe medium.

22. A method of inhibiting the preemergent growth of a plant in a medium that can support the growth thereof, comprising:

introducing into said medium a preemergent growth inhibiting amount of a growth inhibitor, said growth inhibitor comprising lactic acid and a protein hydrolyzate, said lactic acid and protein hydrolyzate together being present in an amount effective to inhibit the preemergent growth of said plant.

23. A method according to claim 22, said growth inhibitor being steep liquor.

24. A method according to claim 23, said steep liquor being corn steep liquor.